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Structural Revolution:
the Human Factor

About the tall white gods who landed from their open boat,
Skilled in the working of copper, appointing our feast-days,
Before the islands were submerged, when the weather was calm,
      The maned lion common,
An open wishing-well in every garden;
      When love came easy.

Perfectly certain, all of us, but not from the records, ...

<div align="right">W. H. Auden, The Orators</div>

By the ninth century BC, all significant trace of the former
Mycenaean civilization had disappeared from the Greek world,
apart from its physical vestiges. That complex and highly-
stratified society, with its kings ruling from citadels and palaces,
its elaborate system of land-ownership, its laboriously detailed
monitoring of production and taxation, its specialization of
crafts, its armed forces and its road network, was gone for ever.
Not that the Greeks had forgotten the Mycenaean episode; if
translated backwards in time, they would have been able to rec-
ognize most of its outstanding features. But the fact was that
their own activities now bore so small a resemblance to those of
their ancestors that there was little that they could have usefully
learned from them. It is, for example, doubtful whether there
was a single Greek alive who could have understood the sym-
bols of the various writing-systems of the Bronze Age Aegean,
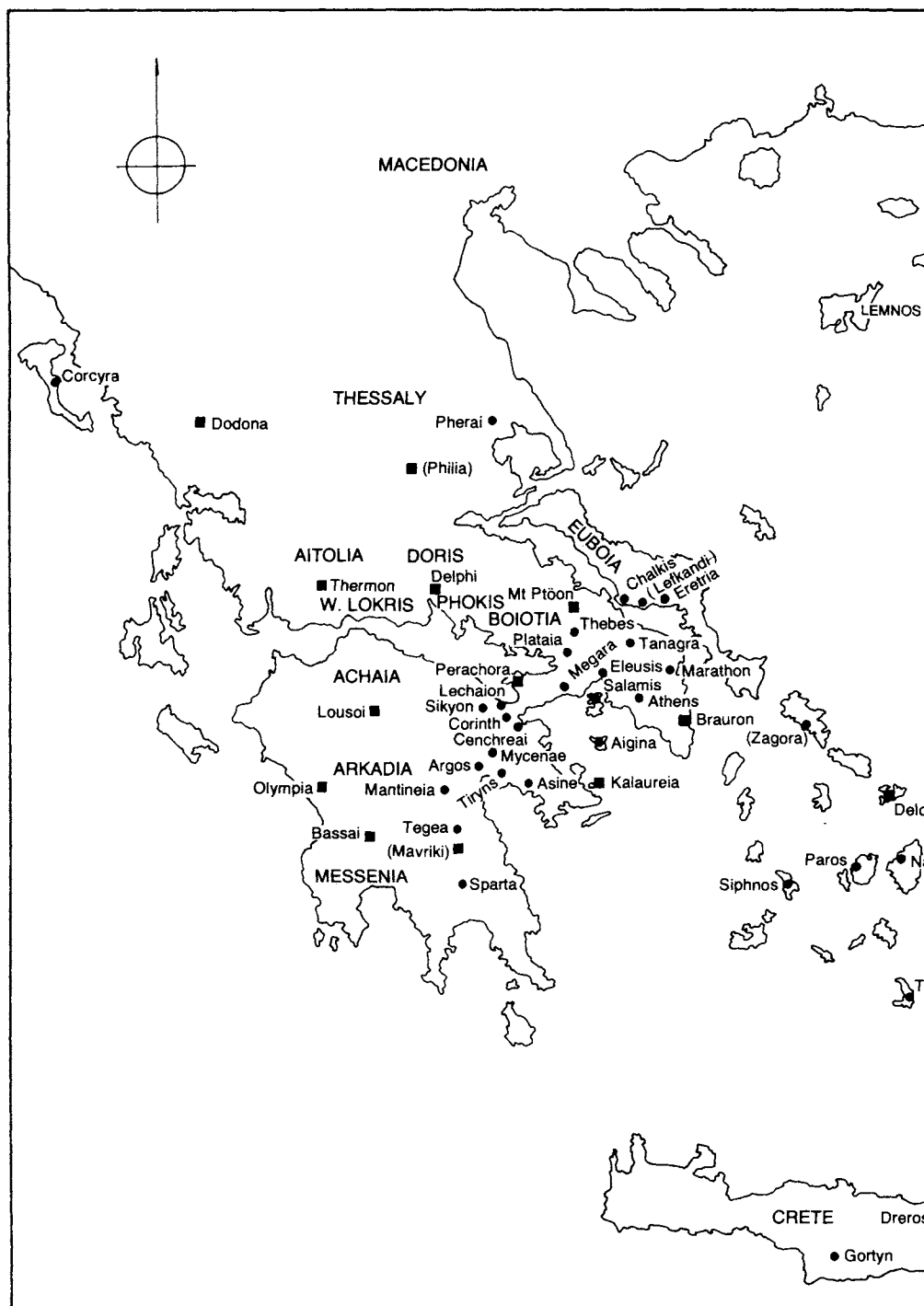much less convinced society of their utility. Like the other out-

Fig. 1
Greece – sites mentioned in the text. (Solid squares indicate sanctuary sites)

Elaious

Sigeion

Mitylene

LESBOS

Phokaia

Smyrna

hios

LYDIA

Kolophon

Ephesos

Magnesia

Samos

Priene

Mt Mykale

Miletos

Iasos

Knidos

Lindos

RHODES

ITALY

Pithekoussai

Taras

Elea

Lokroi

Rhegion

Motya

SICILY

Selinous

Katane

Megara Hyblaia

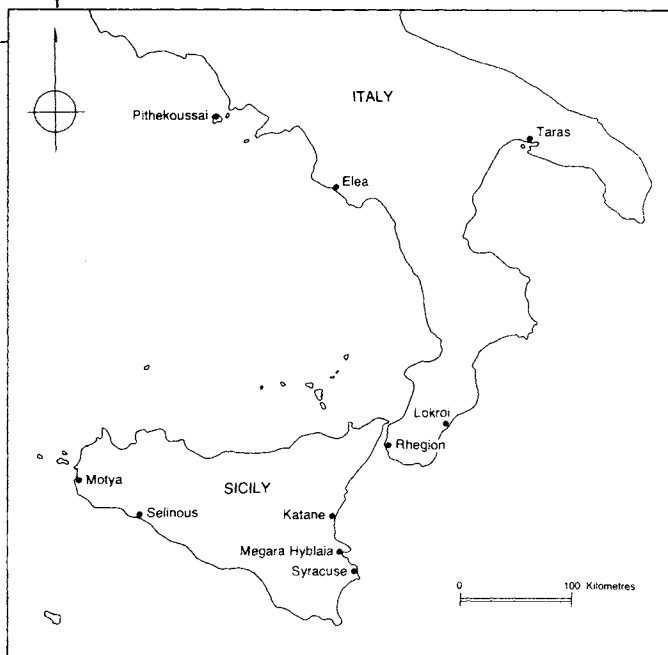Syracuse

0   100 Kilometres

Fig. 2 Italy and Sicily – sites mentioned in the text

wardly impressive attributes of the Mycenaean world, they had been ultimately dependent on a social system for which Greece had no further use; the same was apparently true of the fortified citadels, the elaborately-built tombs, the frescoes, the ornate but impractical weaponry, the personal seals and signets engraved with such skill and labour. These things were an object of awe and perhaps wistful nostalgia, hardly of serious emulation; just as today even fervent imperialists would be taken aback if presented with a detailed plan of re-conquest. One of the greatest attractions of a Heroic Age is the impracticability of any return to it. In the case of Iron Age Greece, the change of outlook is merely a local manifestation of a greater change which passed over the Old World at the end of the Bronze Age, and which can be recognized in different forms from the Celtic West to China. It was as if the adoption of a new basic material, iron, had brought with it a new ethos, as severely practical as the metal itself.

But if the old world had been entirely obliterated, then neither had the new, in the form of the historical Hellenic world, yet arrived. By the eighth century BC, and especially its latter part, we can see the outlines of that world clearly delineated, but in the ninth there are still too many unfamiliar features. For a start, although there were nucleated settlements, there can have been no city life, mainly because the settlements were so small and few. We have at least one instance, Lefkandi in Euboia, where we can believe that a substantial proportion of the community's graves have been discovered. There are some 63 burials in an earlier cemetery whose period of use is estimated at about 125 years; then a further total of 82 in two later cemeteries, covering about 100 years which bring us into the ninth century. If we make the assumption of an average life-expectancy of 30 years, we may be being generous (for comparison in the late eighteenth century of our era it was 28.8 in France, while about 1850 it was 40.2 in England as a whole, but only 24.2 for men in Manchester); even so, the extant graves will then represent a community rising from about 15 persons in the earlier phase to about 25 in the later. If there is a way of making a fair comparison with

earlier, Mycenaean settlements, it is perhaps by considering analogous evidence from the cemetery of Perati in eastern Attica, which centres on the twelfth century BC – the very end of the Mycenaean era – and which is fairly self-contained. Its extant burials number about 600, covering a period estimated at 110–115 years; on the same assumption as before, this will mean a community of about 160 people in the associated settlement. Fortuitous or not, these figures of the shrinkage in settlement-size echo the message of the general evidence of depopulation over the whole country, as we shall see presently.

If ninth-century Greece lacked sizeable towns, this is only one of a series of characteristic features of historical Greek culture which are missing. There is no writing. There is no community of artistic and technological development across the Aegean world. There is no colonization outside the Aegean, and even within it there are famous sites – Sparta, Tegea, Mantineia, Eretria, Ephesos, Chios town – where, if anyone was yet living, we have not found material trace of them. There is but a handful of sanctuaries where we can see any physical trace of cult, and that on a minimal scale. Among the sites that *are* prominent, there are at least three – Lefkandi, Zagora on Andros and the partially Greek trading settlement established by the end of the century at Al Mina in Syria – whose role in later developments was so slight that we do not even know their Classical names for sure. There is hardly a single temple which can be shown archaeologically to have been constructed within the ninth century. Of the personalities and deeds which later Greek tradition would have assigned to this century, almost all can be shown to belong later; what is left is a handful of empty names.

To bring this state of affairs to an end required a revolution indeed. Of the many elements of this revolution which we can detect today, almost all look forward, in that they are intelligible and even familiar to us from later history. Yet the first in importance, and one of the first chronologically, was a development for which nature must take perhaps greater credit than man: the population explosion of eighth-century Greece. The presence of this phenomenon has been vaguely perceived by modern scho-

larship for some years past, but it is, at such an ill-documented period, extremely difficult to measure. Nor is it quite self-evident that such a development was either desirable in itself or necessary for the growth of Greek culture. It is therefore worth pausing to consider both the size and the implications of this change in the Aegean scene.

To begin with, we can see today that Greece in the preceding dark age must have been woefully under-populated. A crude calculation, based on the numbers of known sites in occupation, will show the genesis of this predicament. For the Aegean area as a whole in the thirteenth, twelfth and eleventh centuries BC, it was calculated a few years ago that the number of known sites was something in the order of 320, 130 and 40 respectively for the three centuries. Fieldwork since then has added a few to these totals, but completeness is not relevant to this kind of computation: it is the *relationship* of the figures which counts, and this is not likely to be materially altered – erratic as the earlier fieldwork had been, there is no cogent reason why it should have produced such differential results, unless widespread abandonment of settlements had in fact taken place. If the *number* of settlements were really reduced to something like one-eighth of its former level between the thirteenth and the eleventh centuries BC, then we may add to this our earlier finding that the evidence of two of our most thoroughly-explored cemeteries hints at an equally drastic fall in the *size* of settlements over a slightly different time-span, between the twelfth and the tenth centuries approximately. It all adds up to a picture of depopulation on an almost unimaginable scale, and there may indeed be an element of fortuitous exaggeration in these figures.

Yet there is one thing which provides independent and rather startling confirmation of the reality of this decline in population: it is that the statistical evidence of the subsequent *rise* in population after 800 BC shows this to have been equally dramatic in its steepness, as we shall soon see. This evidence is derived from data of a slightly different kind, namely the numbers of burials per generation in certain communities and areas; and the potential flaws in these data are of a different order from those of the

earlier period of depopulation. It is quite possible that exaggeration has once again crept in, but it is a somewhat suspicious coincidence for it always to operate in the same direction. A high proportion of the evidence, in all the relevant periods, comes from burials rather than settlements, so that it will hardly do to explain the shortfall in the years between about 1100 and 800 BC by claiming that people were using some unrecognized and therefore undatable pottery at that time: this might cover the case of settlements, but not that of cemeteries unless there were a large number of undated graves, which is not the case. The most respectable route of escape from the conclusion of depopulation might be that there is some hidden selectivity in the burial-practices of Greece which operates only between 1100 and 800, and leads us to underestimate the numbers of burials and indeed to overlook whole sites for the disposal of the dead. Some such practice as exposure of the dead, to the total exclusion of burial, would meet the case. But there is no shred of positive evidence for such a custom; and furthermore we can point to the fact that the cemeteries which we do have represent a fairly complete range of ages and sexes, while their general poverty is such as to make it an almost laughable claim that they should represent any kind of élite or privileged group.

For all these reasons, I believe that it is now the most sensible course to accept that there was indeed a most drastic depopulation of Greece at the end of the Bronze Age. Of course, it may be that the level of population in the thirteenth century BC, the last era of the Mycenaean heyday, was dangerously high and that this contributed to the economic disaster which may well have brought about the downfall of that culture. But if so, then the pendulum subsequently swung much further than was good for Greece. It does not require too much imagination to picture some of the effects of living in small settlements, some of them shrunken survivals of the greater Mycenaean ones among whose ruins they were set, with long distances between them and with large areas of usable land unoccupied. The memory of ancestral achievements must have been clear enough to emphasize the falling-off to the latter-day Greeks (if also to console them for it);

nowhere more so than in the field of population where the power of the former armies was not easily forgotten, while the size of the towns, together with the manpower and specialization of labour required for their associated feats of engineering, were features inherent in the still-visible remains. (Compare the evidence of the relative sizes of Perati and Lefkandi, neither of them probably a centre of major importance, pp. 18–19.)

The low level of population in the eleventh-century Aegean as a whole shows no sign of having risen any more markedly in the tenth and ninth centuries than does that of the settlement of Lefkandi. These are not questions on which one can speak with any certainty; one can only say that nothing, least of all the quantities of surviving pottery, does anything to suggest a major recovery. This is especially clear on the Greek mainland: across the Aegean in Ionia, where comparatively recent settlements had been established on largely unexploited territory, and on the Aegean islands, many of which were probably entirely deserted and offered scope for new settlers to make a fresh start, the picture may have been more positive; some at least of the factors
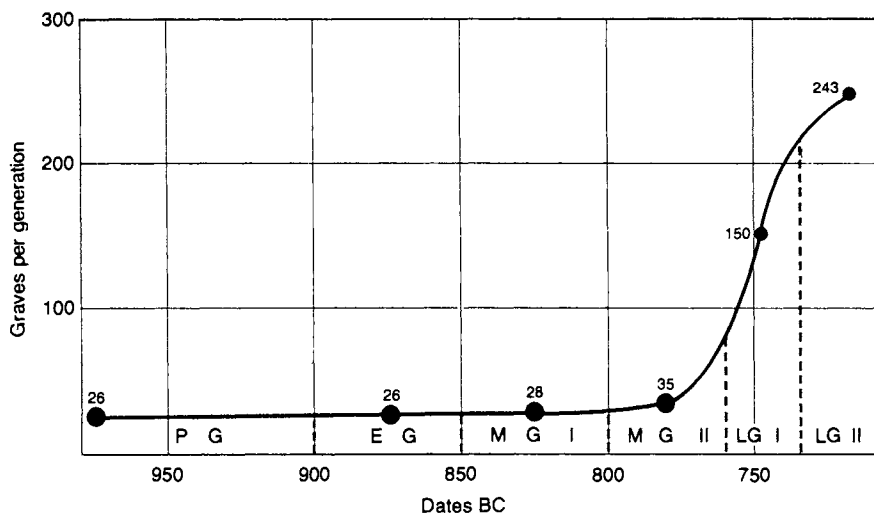

Fig. 3 Estimated population-growth in Athens and Attica, *c.* 950–700 BC (the points are located at the mid-point of each pottery-phase; chronology after J. N. Coldstream, *Greek Geometric Pottery* (1968))

which govern changes in population – in morale, in health and above all in availability of resources – may have already begun to operate favourably.

If so, this was nothing compared with what was to happen in the eighth century. I have tried elsewhere to calculate the rate of population-growth in one area, Attica, at this time, using the evidence of the datable burials from this region (Fig. 3). My conclusion was that in the space of two thirty-year generations, between about 780 and 720 BC, the population may have multiplied itself by a factor of approximately seven, and I tried to show grounds for finding this credible. In the accompanying diagram (Fig. 4), I have elaborated on this conclusion by further subdividing the burials into those from within the area of Athens itself, and those from the Attic countryside around it. The result suggests a slight net emigration from the town to the country, in that the curve rises more steeply towards the end for the latter area than for the former; we have no grounds for inferring any significant immigration from outside at this period. I have also shown (Fig. 4 dashed line) the apparent growth, based
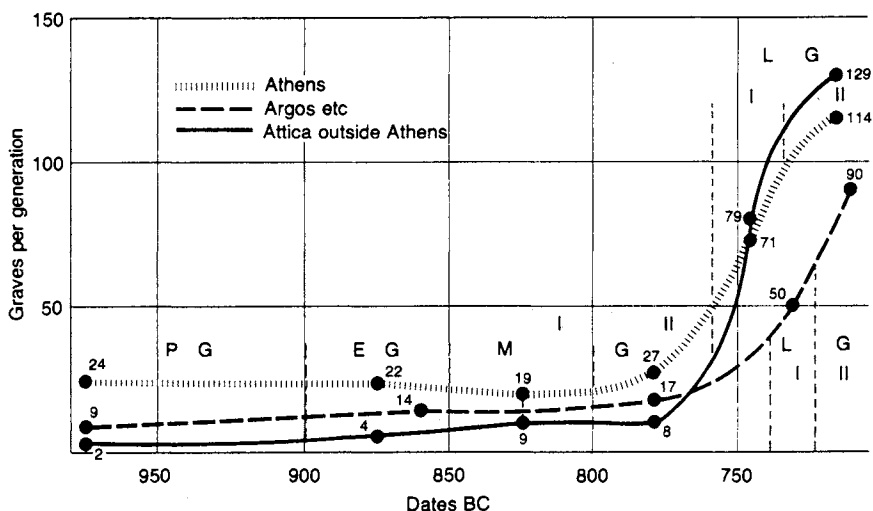

Fig. 4 Estimated population-growth of (i) Athens, (ii) the Argolid and (iii) the Attic countryside, *c.* 950–700 BC (points located as in Fig. 3 but the dates and durations of the periods are different at Argos; Argive chronology after P. Courbin *La Céramique géometrique de l'Argolide* (1966))

on a parallel calculation, for one of the few other regions which offer something approaching an adequate sample on which to base one's conclusions: the Argolid with the town of Argos and a group of lesser towns in or near the Argive plain (Asine, Lerna, Mycenae, Nauplia and Tiryns, with a few outlying graves). Being from essentially town-centred cemeteries, this evidence is to be compared with that from the town of Athens (Fig. 4, barred line); the relationship within the Argive group is *not* like that between Athens and its territory, since the other centres were at this time largely independent of Argos, as the Attic countryside was not. The Argive graph shows an increase from approximately the same period as the Athenian one. Despite the exodus that we have inferred, from Athens to the country, the Argive increase looks slighter, but this is very probably the result of a much smaller sample (182 closely datable graves, as against 424 from Athens and 673 from Attica as a whole). The *rate* of increase in the Argolid and in Athens town is similar; and in the long term the salient feature is the marked rise in population everywhere during the eighth century. Its appearance in the Argolid makes the alternative explanations for Attica (p. 21 above) seem even less likely, for the burial-customs both traditional and contemporary were quite different in the Argolid.

Once again, it is possible to imagine some of the consequences for Greek society of a dynamic change like this. As settlements increase in number, communication between them becomes easier and more frequent; new ideas spread more widely; the pace of change accelerates. As the same settlements increase in size, greater division of labour becomes possible and, more important, political change becomes almost mandatory. A loose organization under a dominant family, with *ad hoc* decisions taken by a local ruler and only occasional assemblies of any larger group, becomes unworkable when the community more than doubles in size within a single generation. Greater resources of land are needed; new houses and whole settlements have to be built. Problems arise of a kind never experienced in the collective memory; and long-term decisions, some of them

hard ones, have to be made. The survival of the group is now replaced, as the top priority, by more unfathomable considerations. A tighter and more complex social organization is needed.

If the population factor, on its own, could thus create a potentially revolutionary situation, it still requires some specific political steps to fulfil the potential. The eighth-century Greeks produced one great notion which was in many respects new, although it drew on some natural sources of inspiration in the earlier history of their land, and perhaps on others from outside. The dominant geographical unit in their past, especially the recent past had been a region of territory, whose area could reach a thousand square miles or more; we can be more certain about this geographical element than about the corresponding political one. One thinks naturally of a tribal system, but in recent years this hypothesis has been very strongly contested. On the face of it, tribal survivals in later Greek political systems are strong enough to suggest a considerable previous importance. Greek historical records abound in tribal names, and many states also show evidence for the survival of a hierarchy of lesser subdivisions of the tribe: the *phratry* or 'brotherhood' which at least purported to be a kinship-grouping, and the smaller *genos*, a group of related families (although not every tribesman necessarily belonged either to phratry or genos). What is more, the same tribal names recur, again and again, among different states speaking the same dialect of Greek: among the Ionic-speakers, a recurrent group of four tribe-names, among those speaking Doric a different group of three. This would make best sense if the system derived from a stage when all the Ionic Greeks were still united in mainland Greece, and the Doric-speakers similarly but separately concentrated.

But at this point difficulties begin to arise, and they have been recently developed by French scholars who have argued, with great thoroughness and ingenuity, that this whole picture of a 'tribal order' in early Greece is a mirage. It is indeed a surprising fact that, of the two main forms of state in the historical Greek world, it is only in the more advanced one, the *polis* (below p. 28), that the apparatus of tribal survivals occurs, and not in the

simpler *ethnos* (p. 42), which so much more closely resembled the supposed ancestral model of organization. The next obstacle is that the subdivisions of the system are suspiciously hard to trace, and the genos in its technical sense of an established social organization is entirely absent, in the texts of Homer and Hesiod. If we argue that the system was already, by their time, in an advanced state of decay, then it is reasonable to ask why it later reappears, in robust health albeit in a 'technical' form, in the states of the historical period, with the genos particularly widely attested. Furthermore there is disagreement as to precisely what form the genos took in historical times, with some arguing that it had changed its nature from being a kind of clan-organization to which everyone of a certain minimal status belonged into an exclusive aristocratic group, while others hold that, on the contrary, it had allowed its original prowess to be diluted by the admission of non-aristocratic outsiders. These and other difficulties largely disappear if we merely make the assumption that the system had no ancient pedigree; that the tribe, phratry and genos were the late and artificial creations of the developed Greek state, in whose workings they played an indispensable part, enabling such matters as military enlistment and minor religious festivals to be handled by small and manageable groups.

This is a clever theory and, like others of its kind, it is destructive as well as constructive in its effects. For if there was no tribal order in the era before the formation of the Greek states, then what system was there? To what group larger than the family did men owe allegiance? Archaeology may help here, for it suggests that, throughout the dark age and even to some extent in the last years of the Mycenaean epoch, some organized entity had existed which – whatever its name – could function over fairly large geographical areas. When common features of material culture appear in each such area, and change as the boundaries of the territory are reached, it is fair to infer some human grouping which is coterminous with the area; and it is difficult to think of a better model than a tribal system to explain these phenomena. We have our first glimpse of these divisions in the

full Bronze Age, in one or two features (but not many) of the culture of the Mycenaeans, and this is not surprising: every civilization can be expected to show *some* degree of regional differentiation, and the remarkable thing is that the divisions at this period are not stronger. But later we see them, more strongly marked, in such things as the burial-practices of the Protogeometric period, when central control had broken down, the trappings of civilization had disappeared, and loose-knit groups were scattered thinly over the landscape. The regional schools of Geometric pottery in the ninth and eighth centuries BC reveal them in an even more clearly developed form. Nor are they detectable only in material objects. The spread of the alphabet to Greece leads to the growth of a mass of 'epichoric' alphabets, each distinguishable in minor ways from its neighbours in the same dialect-group, and more obviously from those in other groups; their divisions more or less coincide with those of the material phenomena. This regional pattern calls out for an explanation: what ties can have bound together the practices of men living in such small numbers and at times more than fifty miles apart? Certainly they were such ties as could survive the growth of the historical city-state, offer a rival to it as a focus for loyalty, and on occasions supplant it; while in areas where the city-state did not arise, they continued to define the political unit of the ethnos. Geographical and environmental factors are hardly enough on their own; furthermore, the pattern must have had to grow up in reaction against the very different tendencies of the Mycenaean world, which had been characterized by entrenched and affluent monarchies, living on a pattern superficially similar to each other but markedly different from that of their subjects. The ensuing dark age is the best time for such a system to have grown up; it is comforting, too, that *some* form of tribal state seems to be detectable in the Homeric poems, although at certain points it is overlaid with reminiscences of the Mycenaean kingdoms (as for example in the *Catalogue of Ships* in book ii of the *Iliad*) and at others contaminated by the poet's awareness of the growth of the city-state in his own time; and although as a result the incidence of substantial towns is

unrealistically high. The standard way for Homer to refer to a
king's subjects, to a state, or to a component in the armies at
Troy, is by the plural ethnic – 'the Myrmidons', 'the Boiotians',
'the Cilicians' and so forth. This bears the stamp of tribalism, if
of a simple kind, without the elaborate substructure of phratry
and genos.

There may be ways in which a tribal system could accommo-
date a soaring rise in population without disintegrating. But in
the event the more advanced communities in Greece adopted a
different solution, one which led to urbanization, but only by an
indirect route. The distribution of these more developed states
coincides fairly well with that of the more advanced areas of
Mycenaean culture, where towns had once existed. Memory of
the names of the former towns, though not always their loca-
tion, certainly survived. But the new system was to be no mere
re-establishment of the old. The towns were to be quite different
physically and, above all, they were to form part of a quite dif-
ferent political system. We know that in the Mycenaean world a
kingdom normally included a number of towns all subject to the
king's rule, and we suspect a very marked discrimination bet-
ween town and country. These were features that were not to be
revived in the new states.

As so often happens, the name adopted for the new institu-
tion was a well-worn term with many meanings besides the one
now intended. 'Polis', since the time when it outgrew its earlier
meaning of 'citadel' or 'stronghold', had probably meant merely
a conurbation of a certain minimum size. Now, in its strictest
usage, it came to mean a settlement with two essential and new
qualities: first, political independence (not always unqualified)
from its neighbours; second, political unity with a tract of coun-
try surrounding it, this time entirely unqualified, in that no for-
mal distinction was normally made between the inhabitants of
the countryside and the inhabitants of the main settlement.
Although in one or two cases the institution of monarchy sur-
vived into the lifetime of the new system, and although it later
proved possible to reconcile the two in the rather different
régime of the Archaic tyrannies, the growth of the polis coin-

cided with the general disappearance of hereditary monarchies. The idea of a king ruling over a single town and its territory had perhaps not been quite unknown in Mycenaean times; but we do not find it in the *Catalogue of Ships*, the place in Homer where above all we should expect it to occur if it were a regular Mycenaean feature and its appearances elsewhere in the poems are few and controversial. Appropriately enough in the cases where hereditary monarchy still lingered on in the eighth century and later, the word now used for 'king', *basileus*, had in Mycenaean Greek apparently signified a mere nobleman or petty chieftain.

Nor was the typical early polis simply a Mycenaean town resurrected: hardly surprisingly, since the process which had begun in the Neolithic period and reached its final stage in the
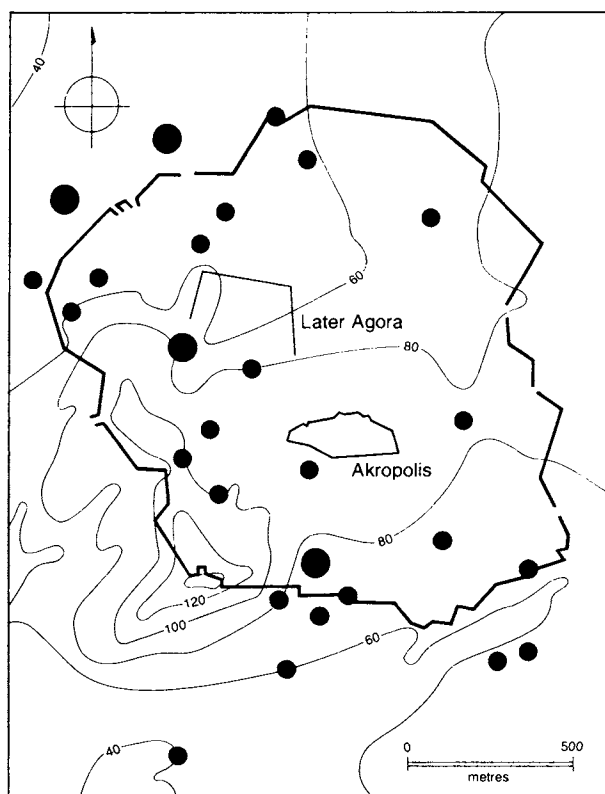

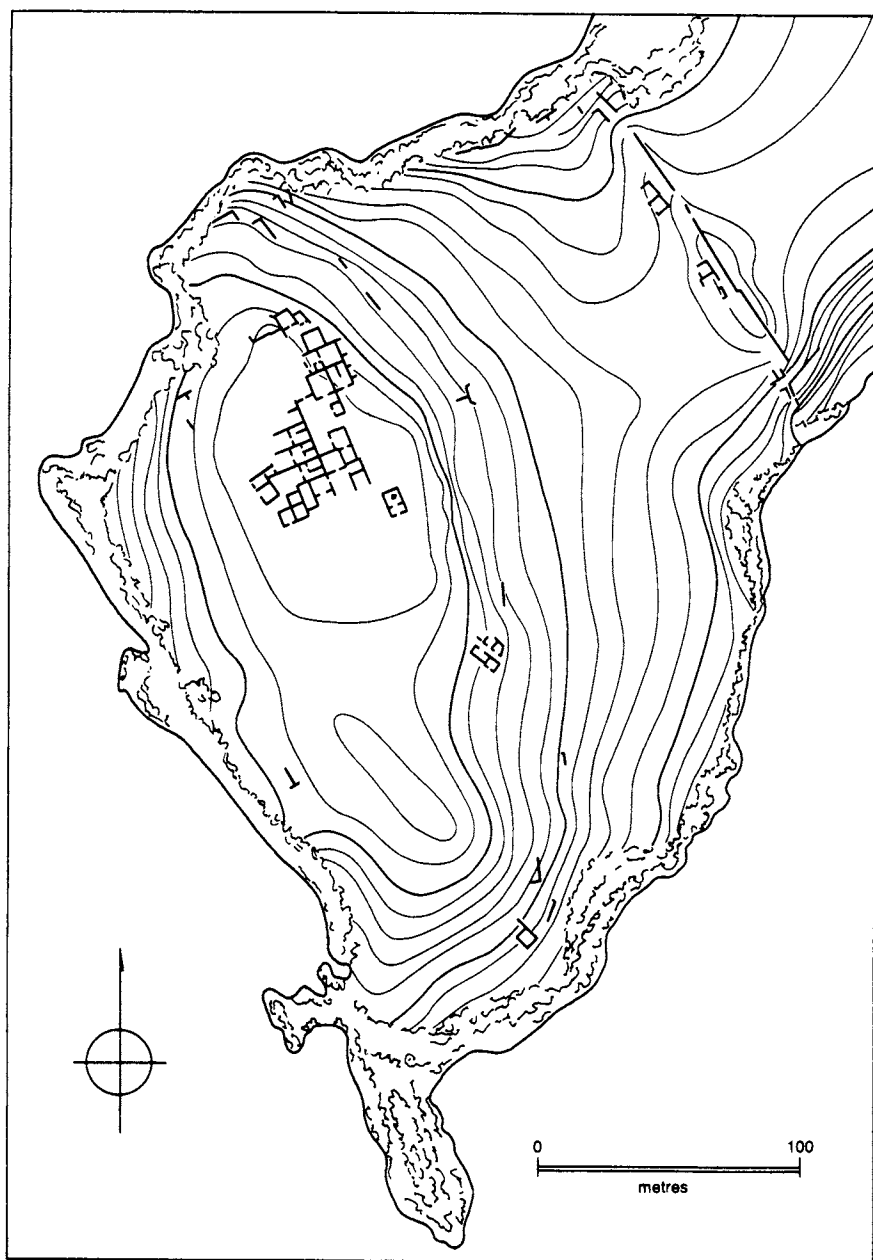Fig. 5 Distribution of early burials (ninth and eighth centuries BC) in Athens

Fig. 6 Plan of the eighth-century settlement at Zagora on Andros